

IN THE CLAIMS:

The text of all pending claims (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. When strikethrough cannot easily be perceived, or when five or fewer characters are deleted, [[double brackets]] are used to show the deletion. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered). Please

~~AMEND claim 9 in accordance with the following:~~

1-8 Canceled

9. (CURRENTLY AMENDED) A method for compensating for defocus of an optical recording medium, the method comprising:

detecting the defocus of the optical recording medium using a light beam having a wavelength of roughly 430 nm or less; and

compensating a recording signal with respect to the detected defocus, including adjusting a write power level required for recording the recording signal.

10. (PREVIOUSLY CANCELLED)

11. (PREVIOUSLY AMENDED) A method of compensating for a tilt and a defocus of an optical recording medium, the method comprising:

detecting the defocus of the optical recording medium;
compensating a write pulse with respect to the detected defocus using a predetermined scheme, wherein the write pulse comprises a predetermined recording pattern;

detecting the tilt of the optical recording medium; and
compensating the write pulse with respect to the detected tilt so as to shift the recording pattern with respect to the detected tilt.

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12. (ORIGINAL) The method of claim 11, wherein the predetermined scheme comprises adjusting a power level with respect to the detected defocus.

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13. (PREVIOUSLY AMENDED) The method of claim 11, wherein the compensating of the write pulse with respect to the detected tilt comprises:

shifting the recording pattern with respect to the detected tilt by both an amount that the recording pattern was shifted due to the detected tilt, and in a direction opposite to the direction that the recording pattern was shifted due to the detected tilt; and

adjusting a power and a write time required for recording with respect to the detected tilt in order to compensate for a size of a recording mark corresponding to a recording signal.

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14. (PREVIOUSLY AMENDED) The method of claim 13, wherein
the adjusting the power comprises adjusting a write power to compensate a length of the recording mark, and
the adjusting the write time comprises adjusting the write time to compensate a width of the recording mark.

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15. (ORIGINAL) The method of claim 14, wherein adjusting the recording mark width comprises adjusting an ending time of a first pulse and/or a starting time of a last pulse of the recording pattern.

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16. (PREVIOUSLY AMENDED) The method of claim 11, wherein the compensating of the write pulse with respect to the detected tilt comprises:

adjusting a write power to compensate a length of a recording mark corresponding to a

recording signal, and

adjusting a write power of a multi-pulse chain of the recording pattern to adjust a width of the recording mark.

17. (PREVIOUSLY AMENDED) A method for compensating input data for a tilt and/or a defocus of an optical recording medium, which records marks and spaces by write pulses having a predetermined recording pattern, the method comprising:

detecting the tilt and the defocus of the optical recording medium; and

adaptively compensating the recording pattern with respect to the detected tilt and/or defocus using a memory, wherein the memory stores data comprising

a write power to compensate with respect to the detected defocus,

a power and a time required for recording to compensate for an amount of shift of the recording pattern, and

a power and a time required for recording to compensate for a length and a width of a recording mark with respect to the detected tilt and/or a length of the recording mark.

29. (PREVIOUSLY AMENDED) An apparatus which records and/or reproduces information on an optical recording medium, and which compensates for tilt and/or defocus, the apparatus comprising:

a tilt and/or defocus detector which detects the tilt and the defocus of the optical recording medium; and

a recording compensator which compensates a recording pulse with respect to the detected tilt and defocus using a predetermined scheme to adjust a length and a width of a recording mark according to the detected tilt and/or defocus,

wherein the recording pulse comprises a predetermined recording pattern.

30. (ORIGINAL) The apparatus of claim 29, wherein, according to the predetermined scheme, said recording compensator adjusts a power level required for recording the recording pulse with respect to the detected defocus.

31. (PREVIOUSLY AMENDED) The apparatus of claim 29, wherein, according to the predetermined scheme, said recording compensator adjusts a power and a time required for recording the recording pulse with respect to the detected tilt.

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32. (PREVIOUSLY AMENDED) The apparatus of claim 29, wherein said recording compensator adjusts a write power with respect to the detected defocus, and generates the recording pulse earlier to compensate for an amount of shift with respect to the detected tilt, and adjusts a power and/or a time of the shifted recording pulse to compensate the length and the width of the recording mark.

33. (ORIGINAL) The apparatus for compensating of claim 32, wherein said recording compensator adjusts the power required for recording to compensate the length of the recording mark, and adjusts the time required for recording in order to compensate the width of the recording mark.

34. (ORIGINAL) The apparatus of claim 33, wherein said recording compensator adjusts the power by adjusting a write power to compensate the length of the recording mark, and adjusts the time by adjusting an ending time of a first pulse and/or a starting time of a last pulse to compensate the width of the recording mark.

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35. (ORIGINAL) The apparatus of claim 32, wherein said recording compensator both adjusts the power by adjusting a write power to compensate the length of the recording mark, and adjusts a power of a multi-pulse chain of recording pattern to compensate the width of the recording mark.

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36. (ORIGINAL) The apparatus of claim 29, further comprising a luminance source which provides the recording pulse, wherein a wavelength of the luminance source is equal to or less than approximately 430 nm.

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37. (ORIGINAL) The apparatus of claim 29, further comprising an objective lens having a numerical aperture greater than or equal to 0.6, and wherein the optical recording medium further comprises a substrate having a thickness greater than or equal to 0.3 mm.

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38. (ORIGINAL) The apparatus of claim 29, further comprising an objective lens having a numerical aperture greater than or equal to 0.7, and wherein the optical recording medium further comprises a substrate having a thickness less than or equal to 0.3 mm.

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39. (PREVIOUSLY AMENDED) An apparatus, which records marks and spaces by write pulses having a predetermined recording pattern, and which compensates input data for tilt and/or defocus of an optical recording medium, the apparatus comprising:

a tilt and defocus detector which detects the tilt and defocus of the optical recording medium;

a tilt and defocus compensator which adaptively compensates the recording pattern with respect to the detected tilt and defocus; and

a memory storing data comprising

a write power to compensate with respect to the detected defocus,
a power and time required for recording in order to compensate an amount of shift of the
recording pattern, and
a power and time required to compensate a length and a width of a recording mark with
respect to the detected tilt and/or length of the recording mark.

40. (ORIGINAL) The apparatus of claim 39, wherein the data stored in the memory
comprises

a power and/or time and an amount of shift required for recording to compensate when
defocus and tilt occur together, and

a power and/or time and an amount of shift required for recording to compensate when
defocus or tilt occurs.

49. (PREVIOUSLY AMENDED) A computer readable medium storing a computer
program having instructions which, when executed by a processor, cause the processor to
perform a method, the method comprising:

detecting a defocus of an optical recording medium;
detecting a tilt of the optical recording medium; and
adaptively compensating a length and a width of a recording signal with respect to the
detected defocus and tilt using a predetermined scheme stored in a memory.

50. (ORIGINAL) The computer readable medium of claim 49, wherein the
predetermined scheme comprises adjusting a power level required for recording the recording
signal.

Subs 51

51. (PREVIOUSLY AMENDED) A computer readable medium storing a computer program having instructions which, when executed by a processor, cause the processor to perform a method, the method comprising:

detecting a defocus of an optical recording medium;

adaptively compensating a write pulse with respect to the detected defocus using a predetermined scheme stored in a memory, wherein the write pulse comprises a predetermined recording pattern;

detecting a tilt of the optical recording medium; and

adaptively compensating the write pulse with respect to the detected tilt so as to shift the recording pattern with respect to the detected tilt.

Subs 52

52. (ORIGINAL) The computer readable medium of claim 51, wherein the predetermined scheme comprises adjusting a power level with respect to the detected defocus.

Subs 53

53. (PREVIOUSLY AMENDED) The computer readable medium of claim 51, wherein compensating the write pulse with respect to the detected tilt further comprises:

shifting the recording pattern within the write pulse with respect to the detected tilt by both an amount that the recording pattern was shifted due to the detected tilt, and in a direction opposite to the direction that the recording pattern was shifted due to the detected tilt; and

adjusting a power and a write time required for recording with respect to the detected tilt in order to compensate for a size of a recording mark corresponding to a recording signal.

Subs 54

54. (PREVIOUSLY AMENDED) The computer readable medium of claim 53, wherein the adjusting the power comprises adjusting a write power to compensate a length of the recording mark, and

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the adjusting the write time comprises adjusting the write time to compensate a width of the recording mark.

55. (ORIGINAL) The computer readable medium of claim 54, wherein adjusting the recording mark width comprises adjusting an ending time of a first pulse or a starting time of a last pulse of the recording pattern.

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the compensating the write pulse with respect to the detected tilt comprises:
adjusting a write power to compensate a length of a recording mark corresponding to a recording signal, and
adjusting a write power of a multi-pulse chain of the recording pattern to adjust a width of the recording mark.

57. (PREVIOUSLY AMENDED) A method of compensating for defocus and/or tilt of an optical recording medium, the, method comprising:
detecting a defocus of an optical recording medium;
compensating a write pulse with respect to the detected defocus using a predetermined scheme;
detecting a tilt of the optical recording medium; and
compensating the write pulse with respect to the detected tilt so as to adjust a length and a width of a recording mark in accordance with the detected tilt.

58. (ORIGINAL) The method of claim 11, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.

59. (ORIGINAL) The method of claim 17, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.

60. (ORIGINAL) The computer readable medium of claim 49, wherein the predetermined scheme comprises adjusting a write time required for recording the recording signal.

61. (ORIGINAL) The computer readable medium of claim 49, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.

62. (PREVIOUSLY AMENDED) The method of claim 57, wherein the compensating the write pulse with respect to the detected tilt comprises adjusting a power and/or a write time required for recording the write pulse.

63. (ORIGINAL) The method of claim 57, wherein the detected defocus and the detected tilt are detected using a light beam having a wavelength of roughly 430 nm or less.